

• What is claimed is:

1. A dispenser for viscous and highly viscous liquids and pastes comprising:

(a) having P1 cylinder for containing product with threaded hub on one end and two vent holes on same end.

(b) having P2 knob sleeve attached to top of threaded actuator rod - so rotation of knob rotates actuator rod - with knob sleeve rotating around cylinder outer circumference.

(c) having P3 actuator rod thread through cylinder hub with actuator disk and spindle rotating in ram wells.

(d) having P4 ram with provision for placing "O" ring seal on circumference of ram; with provision for ram wells to receive actuator rod disk and actuator rod spindle; with provision for ram to force product to nozzle end.

(e) having P5 nozzle section with provision for locking into and sealing cylinder from inside, outside and bottom; with provision to expel air from container on initial filling by manufacturer; and to coordinate with ram bottom to expel virtually all product from dispenser.

(f) having P6 nozzle cap with means for locking into nozzle section and sealing nozzle tip; means to clean inside nozzle tip; and to bring close-off valve back to original position.

(g) having P7 close-off valve with provision to press-fit into nozzle section; to automatically compensate for viscosity of products to open and close properly; to pull excess product at nozzle tip back into nozzle on release of knob.

(h) having P8 "O" ring seal to fit over ram circumference with bottom open - to provide maximum sealing ability.

(i) having P9 lock ring with provision for filling empty space between cylinder and nozzle section for better appearance and to prevent backward rotation of nozzle section off cylinder.

(j) having P10 bracket with provision to lock nozzle section or knob sleeve inside bracket.

(k) having P11 nozzle saucer with provision for attaching to nozzle tip to have product pumped into saucer reservoir.

(l) having P12 dual nozzle cap for sealing nozzle tip and means for other end to clean inside nozzle tip, and to bring close-off valve back to original position.

2. The dispenser of claim 1 in which said cylinder has means to thread actuator rod through hub to provide leverage to precisely control amount dispensed of highly viscous products as caulking and peanut butter.

3. The dispenser of claim 1 in which said cylinder has two vent holes 13a and 13b - that on initial filling of product by manufacturer - sealant as paraffin can be pumped into one hole to fill up circumference above "O" ring seal and between ram top outer wall 41-42 - to allow air to exit from opposite hole - to provide increased sealing of product for longer shelf life - with provision for vent holes to open on initial dispensing of product by consumer.

4. The dispenser of claim 1 in which said actuator rod - attached to knob sleeve - is threaded through cylinder hub;

in coordination with ram wells and cylinder - has leverage to precisely control amount dispensed of highly viscous products as caulking and peanut butter.

5. The dispenser of claim 4 in which said actuator rod disk 36 rotating in ram well 46a-46b prevents ram from tilting;

and said actuator rod spindle 37 rotating in ram well 47a-47b prevents ram from tilting;

and in event ram did tilt slightly, actuator disk horizontal bottom wall 36 rotating in ram horizontal well bottom wall 46b-46a would push ram back into alignment;

in which said actuator rod spindle bottom 38 touches ram well bottom 47b slightly before actuator disk bottom 36 touches ram well bottom 46b-47a - to concentrate force at ram well center 47b - to assure equalization of downward pressure on ram - to maintain concentricity of ram - to move ram smoothly to nozzle end to expel product.

6. The dispenser of claim 1 in which said ram has ram 46a-46b for actuator disk 36 to rotate in;

in which said ram has ram well 47a-47b for actuator spindle 37 to rotate in;

in which said ram wells coordinate with actuator rod disk and actuator rod spindle to prevent ram from tilting;

and in event ram did tilt, ram wells coordinating with actuator rod disk and actuator rod spindle - would push ram back into alignment;

to maintain concentricity of ram - to move ram smoothly toward nozzle end to expel product - alternate claim 5.

7. The dispenser of claim 1 in which said nozzle section has provision to lock into cylinder from inside, outside and bottom;

whereby nozzle section inner wall 52a-52b is inserted over cylinder outer wall at 11b; nozzle section projections 53a, 53b, 53c are rotated over cylinder tabs 16a, 16b, 16c to lock nozzle section to cylinder;

cylinder bottom wall circumference 11a-11b has small radius to enable cylinder to give slightly when pressured against nozzle section inner bottom wall 56a to provide more effective sealing;

said nozzle circular sleeve 51 slides inside cylinder bottom wall 12b;

while simultaneously, nozzle section lower horizontal wall 56a moves inside cylinder to cause product to be forced through close-out valve at nozzle tip position 57a-57b and possibly out nozzle tip 58a-58b - to remove virtually all air from dispenser - on initial product filling.

8. The dispenser of claim 1 in which said lock ring has provision for lock ring openings 91a, 91b, 91c to be placed over nozzle section projections 53a, 53 b, 53c;

with provision for lock ring walls 93a, 93b, 93c to be pressed into space between nozzle section projections 53a, 53b, 53c to prevent backward rotation of nozzle section in cylinder;

to fill space between nozzle section projections and cylinder tabs for a neater appearance.

9. The dispenser of claim 1 in which said nozzle saucer has means for products as artists' paints, body lotions, pastes as bean - cheese dips to be pumped into saucer; with provision for nozzle saucer hex center hole 113b-113a to slide over nozzle section tip hex outer wall 59 with nozzle saucer hex center hole 113a level with nozzle section tip hex outer wall 59;

so that rotation of knob pumps product into nozzle saucer reservoir 112a;

having curved notches 111 on saucer circumference to make cleaning easier for consumer.

10. The dispenser of claim (1) in which said close-off valve has provision for close-off valve outer wall 71a-71b to be press-fit into nozzle section tip inner wall at 57a-57b;

having four slits from valve center 77a-77b to outer circumference 73a-73b, 74a-74b, 75a-75b, 76a-76b; to create four flaps;

whereby four flaps have thinner center wall and become progressively thicker toward outer circumference - to coordinate with spherical roof - so that flaps open and close properly - to automatically compensate for viscosity of product;

whereby close-off valve walls can be of heavier construction - giving maximum ability for the four flaps to snap back to original position - with vacuum force pulling excess product at nozzle tip back into nozzle to keep nozzle tip clean;

operation of close-off valve and coordinating parts - being successful because of the great leverage provided by the dispenser of this invention; cylinder hub and actuator rod having 10 to 16 threads per inch.

\* \* \* \* \*